DOCUMENT RESUME

ED 247 417 CE 039 466

AUTHOR Marshall, John L.; Kirkland, Sandy
TITLE Continuation of Job Related Physical Capacities Project (VIEW Interface). From July 1, 1982 to June 30, 1983. Final Report.
INSTITUTION Florida State Dept. of Education, Tallahassee. Center for Career Development Services.
PUB DATE 30 Jun 83
NOTE 43p.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Accessibility (for Disabled); *Adaptive Behavior (of Disabled); Adults; *Career Choice; Career Education; Career Guidance; Career Planning; Databases; *Disabilities; *Employment Qualifications; Equal Opportunities (Jobs); Exceptional Persons; Information Dissemination; Information Services; Information Sources; Information Systems; Job Skills; Microfiche; Mobility Aids; Normalization (Handicapped); *Occupational Information; Rehabilitation; Sensory Aids
IDENTIFIERS *Florida

ABSTRACT

The Center for Career Development Services in Tallahassee, Florida, recently updated and revised its Job Related Physical Capacities Project (JRPC). The project provides career information as well as specialized information about how disabled persons can expect their handicaps to influence their occupational choices and how the handicap can be accommodated and/or overcome in the actual job situation. During the latest phase of the project, the Center revised all previous work from the original JRPC project, updated information so that it would be compatible with existing career information systems, enhanced the original Aids and Accommodations Manual, and prepared the materials for pilot testing. Suggestions from many persons who had used the original project served as guidelines for improving the formats used. The occupations were presented in an easily understood manner, as were the handicapped aids for the Aids and Accommodations Manual. All coding systems/references were made to be used with Florida VIEW (Vital Information for Education and Work) as well as Florida CHOICES (both are computerized career information systems). The 102 occupations with their physical demand information on microfiche and the Aids and Accommodations Manual in printed form will be used by the field test sites as well as other interested organizations. From this pilot test, all suggestions for improvement will be considered for further growth and enhancement of the Job Related Physical Capacities Project. (Author/KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

FL 8313103

ED247417

Final Report

Project No. LEO 3-1C41

From July 1, 1982 to June 30, 1983

Continuation of Job Related Physical Capacities Project (VIEW Interface)

Center for Career Development Services
Florida Department of Education
Knott Building
Tallahassee, Florida 32301

John L. Marshall
Sandy Kirkland

The project reported herein was conducted pursuant to a grant from the Division of Vocational Education, Florida Department of Education. Contractors undertaking such projects are encouraged to express freely their professional judgments in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent the official position or policy of the Florida Department of Education.

CE035466

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

DMcQuat

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ACKNOWLEDGEMENTS

Dr. David McQuat, Division of Vocational Education, Florida Department of Education
Sheryl Ranson, Florida Occupational Information Coordinating Committee
Debbie Herman Seigel, A.C.S.W.
Lloyd W. Tindall, Project Associate, The Vocational Studies Center, University of Wisconsin-Madison

Abstract of the Final Report

Title of Project:	Continuation of Job Related Physical Capacities Project (VIEW Interface)
Organization:	Center for Career Development Services
Project Director:	John L. Marshall
Expenditures:	$30,000.00
Duration of Project:	July 1, 1982 - June 30, 1983
Project Number:	LEO 3-1C41

PROBLEM

Handicapped individuals, like anyone else, need access to comprehensive, easily accessed career information. In addition, however, they frequently need extra specialized information about how they can expect their handicaps to impact on their occupational choices. This is especially true with regard to how the handicap can be accommodated and/or overcome in the actual job situation.

OBJECTIVES

The Center for Career Development Services' objectives were to (1) revise all previous work from the original JRPC project, (2) update information so that it would be compatible with existing career information systems, (3) enhance the original Aids and Accommodations Manual, and (4) pilot test all materials.

PROCEDURES

Suggestions from many individuals that had used the original project served as guidelines for improving the formats used. The occupations were presented in an easily understood manner as well as the handicapped aids for the Aids and Accommodations Manual. All coding systems/references were made to be used with Florida VIEW as well as Florida CHOICES.

RESULTS AND POTENTIAL UTILIZATION

The revised information with the occupations on microfiche and the Aids and Accommodations Manual in printed form will be used by the field test sites as well as other interested organizations. From this pilot test, any and all suggestions for improvement will be considered for further growth and enhancement of the Job Related Physical Capacities Project.

Table of Contents

Acknowledgements iii

Abstract iv

Introduction 1

- Need 1
- Goals and Objectives 3

Methodology 5

- Background Information 5
- Procedures 9
- Data Collection 10

Findings & Analysis 11

- Goal 1 11
- Goal 2 11
- Goal 3 11
- Goal 4 11
- Goal 5 11
- Goal 6 12

Conclusions & Recommendations 13

Product Description 14

Appendices 15

- Appendix A 15
- Appendix B 18
- Appendix C 19
- Appendix D 22
- Appendix E 23
- Appendix F 24
- Appendix G 26
- Appendix H 30
- Appendix I 31
- Appendix J 32
- Appendix K 34
- Appendix L 35
- Appendix M 36

INTRODUCTION

Like the able bodied, physically handicapped people frequently have a difficult time in choosing appropriate careers. Assistance is crucial if their choices are to be realistic and satisfying.

Often there is an overwhelmed feeling (on the part of the guidance counselor and family as well as the individual) that "there is very little I can do to earn a living." Other times, the client may have unrealistically high aspirations, and thus open him/herself to the frustrating experience of trying to meet impossible goals.

Handicapped individuals, like anyone else, need access to comprehensive, easily accessed career information. In addition, however, they frequently need extra specialized information about how they can expect their handicaps to impact on their occupational choices. This is especially true with regard to how the handicap can be accommodated and/or overcome in the actual job situation.

In addition, labor and industry need detailed physical demands information and a method for comparing the physical demands of occupations to the physical characteristics of individuals, in order to effectively train and/or hire physically handicapped individuals. This detailed physical demands information has not been available from any source. As a result, labor and industry have based their training and hiring decisions on information which has unnecessarily ruled out some physically handicapped persons.

It is upon these premises that the work of the Job-Related Physical Capacities Project is based.

The idea of this project came out of an informal meeting held in Miami in early 1978. The discussion focused on the problems which Vocational Rehabilitation counselors face in helping their physically handicapped clients to choose careers. The source of the problems was the lack of (1) accessible and comprehensive information about occupational possibilities; as well as (2) precise information about how physical function problems could be expected to impact upon successful performance of various occupations. Briefly stated, the idea was to find or create a system which could:

1. Present information on a great many occupations in an easily retrievable form.

2. In addition to commonly considered factors about each occupation, give helpful and precise data about handicapping conditions and their impact on job success.

3. Present information in a way which would assist inexperienced counselors who might tend, without such assistance, to guide clients into stereotypical fields.

4. Provide information individualized to each client's own capacities.

5. Broaden the vocational horizons of the user.

6. Give counselor and client some ideas about how rehabilitation engineering techniques might be employed to enhance job success.

7. Take advantage of and build upon already existing career information systems.

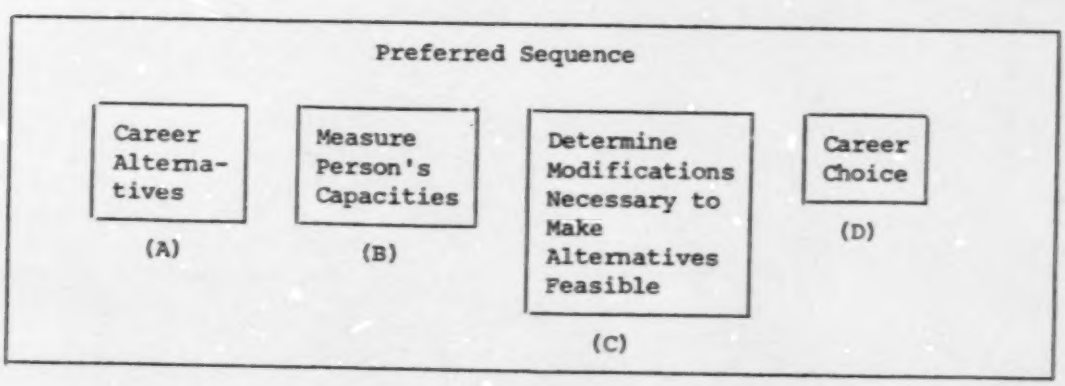
8. Have broad applicability with nearly any job category and client population.

9. Be easy to use by clients and (para) professionals.

10. Be cost-effective.

11. Mainstream the handicapped into the world of work by mainstreaming their use of normalized career choice methods.

The JRPC Project's goal was to formulate a system which looked like this:



In sequence above, the client would first narrow his alternatives on the basis of his interests through one of the existing career information systems (A). He would do this without

consideration for his handicapping condition. Second, his capacities would be measured (B). Where there were gaps between what he could do unaided, and what the job required, aids, accommodations, and modifications would be considered to help "bridge" the gap (C). It would be on the basis of these findings that at point (D) determinations could be made about the potential feasibility of occupational success.

The fact that no system existed for describing the physical demands of an occupation so that they could be compared to the physical characteristics of an individual, and that this was a missing component in the job placement of physically handicapped persons, was recognized by the National Occupational Information Coordinating Committee in 1979. As a result of this recognition, the National Occupational Information Coordinating Committee (NOICC) funded the Florida Occupational Information Coordinating Committee to develop such a system. Especially beneficial to severely handicapped persons, this system enables a physically handicapped person to compare his/her physical capacities to the physical requirements of many occupations. The system also includes an Aids and Accommodations Manual which can be used to determine which aids and accommodations are available to overcome a specific limitation.

This project, funded by the Department of Education, Division of Vocational Education, is a continuation of the original JRPC program funded by NOICC and the Florida Department of Education. The goals and objectives for the project this year are listed as follows:

Goal 1: Improve and enhance the aids and accommodations portion of the JRPC project.

Objective: Florida VIEW will update and add additional aids to the existing JRPC Manual. A search of new manufacturers of these aids will be conducted and information will be assembled for the revised edition. A new format will be designed for use by counselors, Vocational Rehabilitation counselors and other agency people dealing with the handicapped.

Goal 2: Review and revise existing 115 occupations in the JRPC project.

Objective: Florida VIEW will revise all 115 occupations contained in the current JRPC system. The content and format of the materials will be revised to make the materials more compatible with Florida VIEW and other existing career information systems.

Goal 3: Add new occupations to existing 115 occupations.

Objective: In cooperation with Florida V-Techs and other agencies developing occupational task requirements, Florida VIEW will research and add no less than 5 and no more than 10 occupations to the existing 115 occupations.

Goal 4: Microfilm occupations.

Objective: With the development of a new format as stated in Goal 2, Florida VIEW will develop master copies and duplicates of all JRPC materials to be disseminated to JRPC field test sites.

Goal 5: Develop a computer access to occupations and Aids and Accommodations Manual.

Objective: A microcomputer format will be designed such that all physical traits in JRPC can be matched to occupations and also to aids and accommodations.

Goal 6: Pilot tests of materials will be conducted.

Objective: Handicapped programs in schools, vocational rehabilitation sites, and other agencies dealing with the handicapped will be invited to participate in field tests of all JRPC products.

METHODOLOGY

In order to explain the processes of this project, a background of previous research and development must first be given.

A goal was established for a special job development/placement project, funded by Florida's Office of Vocational Rehabilitation from 1978 to 1980. Specifically, the job development project resulted in the conclusion that in order to effectively place handicapped persons into employment, particularly severely physically limited persons, the job development and placement process required improvement.

The job development and placement process that required improvement was the method through which handicapped persons and employers determined whether or not a particular job was appropriate. All too often, after extensive evaluation, handicapped persons with physical limitations were referred to job development/placement personnel with the recommendation that they be placed in any type of "light" employment. Employers, working with the Job Development personnel and given this description, had difficulty determining whether the individual being referred could perform the physical demands of the job in question. This resulted in hesitancy on the part of the handicapped person in terms of accepting the job and hesitancy on the part of the employer to offer it.

What was missing in this process was physical demands information in a language which could describe the specific physical capacities of the handicapped person and relate them to the particular physical demands of an occupation. Further, while the field of rehabilitation engineering has been producing aids which could improve a handicapped person's physical capacities, there has been no way to relate these aids to the physical demands of a given occupation; or to keep counselors, job development/placement personnel, and employers aware of these advancements.

As the Job Related Physical Capacities (JRPC) study was initially conceived, the broad gap between the terms in which employers and job analysts viewed, described and measured jobs and their physical tasks and the way in which physicians, physiatrists, and rehabilitationists did so, became a major issue.

It was immediately apparent that each group had different ways of measuring. The rehabilitationists speak of range of motion, dexterity, ergs of energy, etcetera. The employers and job analysts speak of widgets per minute, words per minute, task accomplishment, etcetera. The task was that of producing a "common language", a taxonomy which would classify job tasks and physical capacities in an objective way, described in a language meaningful and acceptable to the helping professions, the labor market, and most importantly usable and understandable by handicapped people themselves.

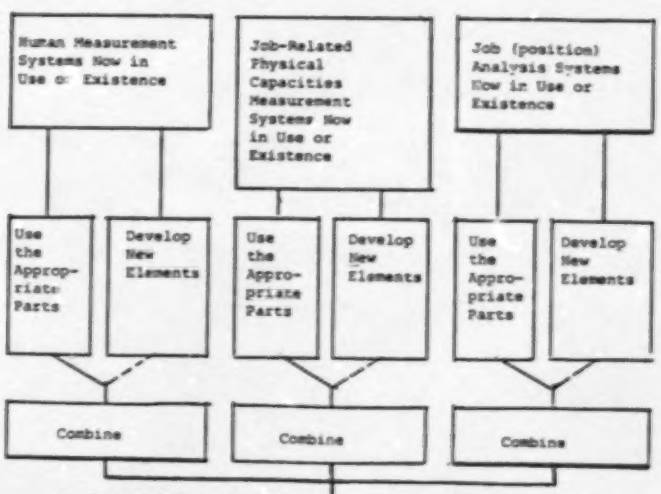
The initial idea was to take parts of the various measuring systems and somehow meld them together into a common language. The common language would take the form of a matrix, relating job requirements on one side with physical capacities on the other.

In the context of this situation, the following points emerged:

1. Within the space between careers and handicapped people there is much confusion between capacities (the potential to do or learn to do something) and skills, (the actual ability to perform a work related task). Time and again this difference came to light as a confounding and diverting factor.

2. The concept of balance became a crucial one for assessment of existing systems. As attempts are made to match human being measures from one side of the matrix with job analysis measures from the other side of the matrix, it is vital that both sides use essentially the same quality of "measurement expertise." For example, on the human side, precise ergonomic measures of "lifting" involve a complex of degrees of arc in movement of shoulder, elbow and hip joints, oxygen consumption rate, height of surfaces, etcetera. If on the other side, the job analyst does not use comparable terms, a meaningful correlation is impossible.

Thus, as is illustrated below, the Job-Related Physical Capacities Matrix is made up of parts of human measurement systems, mixed with Job Analysis Systems, and combined with newly developed measurement elements, which unifies those components into a common language.


Human Measurement Systems Now in Use or Existence
Job-Related Physical Capacities Measurement Systems Now in Use or Existence
Job (position) Analysis Systems Now in Use or Existence
Use the Appropriate Parts
Develop New Elements
Use the Appropriate Parts
Develop New Elements
Use the Appropriate Parts
Develop New Elements
Combine
Combine
Combine

JOB-RELATED PHYSICAL CAPACITIES MATRIX

BEST COPY AVAILABLE

The original JRPC Project took the position that handicapped people needed to be provided access to:

- Our country's economic mainstream.
- All careers and occupations within our economy.
- The mainstream of career planning and vocational decision-making systems in use throughout the country.

The JRPC method was designed to be used in conjunction with an already-existing general career information system. It was designed to augment and supplement the system in order to make its content more specially relevant to physically handicapped persons. It was not designed to be used separately.

The broad and constantly evolving range of career possibilities in our society, along with an infinite variety of functional limitations of handicapping conditions made it necessary for the JRPC system to:

1. Be applicable in conjunction with any existing career information system.

2. Be usable on any job or occupation.

3. Fit any handicapping condition.

Throughout the original project, one of the most prominent concerns was the need to base the system, as much as possible, on the voluminous and pioneering work done by the U.S. Department of Labor. Of particular interest were the subjects "physical demands" and "environmental conditions" used by DOL Job Analysts. A historical review of the DOL factors indicated considerable experimentation and testing of items and format through the years. It was the JRPC conviction, however, that a handicapped user needed more specific elements, and more of them included in these subject areas. Thus, while keeping DOL element structure and definitions in mind, the JRPC Project devised a more extensive list of factors and definitions (See Crosswalk, Appendix A).

Although vocational counselors' main resource tended to be DOL produced information (The Dictionary of Occupational Titles, The Occupational Outlook Handbook, assorted counseling guides, etc.), such information proved difficult.

The JRPC approach was to rely on basic DOL data and expand and modify it to better relate to handicapped persons' issues. At the same time, the project attemted to devise data collection methods which might easily be incorporated as part of the DOL's Occupational Analysis Field Center procedures, and which would significantly expand the information's relevance to handicapped issues.

The intent of the JRPC system was to provide specific information relative to the problems a physically handicapped person must accommodate in order to successfully perform an occupation.

It also provided information on ways in which such accommodation might be managed. The methods used to gather, analyze and present the data were structured to generate and sort out probabilities rather than to give definite yes-no answers. An individual and his counselor can use the system to objectively determine feasibility of particular career choices. The system is designed to enable handicapped persons to approach the problem of their vocational choice from a knowledgeable perspective enabling control of the decision-making process.

In most cases, formalized career information systems use physical demands as principles of exclusion to assist users in narrowing down possibilities. The JRPC client is generally advised not to use those principles. He/she is advised to proceed as though there were no physical limitation problems at that point, but to focus instead on the other principles: i.e. interests, educational levels, desired income, training requirements, labor market projections.

During 1980-81, the original JRPC Research Project Staff (See Appendix B) reviewed and analyzed literature and previous work done by many specialists in the field. After combining various elements of the existing systems and following closely the goals and objectives of their project, they devised the formats used in the initial study (See Appendix C).

The first step taken was to choose 25 occupations of interest to handicapped individuals that were also represented in well known career information systems, i.e. Florida CHOICES AND Florida VIEW. Then, job analysts from the project conducted interviews with several incumbents in each of these 25 occupations. This information was reviewed and tabulated by another job analyst from the staff.

After the physical demands information for the occupations was gathered, the 25 occupations were sent to the Center for Design in California so that aids and accommodations could be suggested for them.

During this initial funding year, the project was a pilot-test to determine the feasibility of developing a viable JRPC system. The project found that the JRPC comparison system, as described, had potential for use as a "handicapped user appendage" to career information programs. While there were refinements that needed to be made, one of the most significant contributions by the project was the organizational structure by which an individual could readily compare his/her own capacities (See Appendix D) with the physical requirements of jobs (See Appendix E).

During 1981-82, the project was continued by a grant from the Florida Department of Education, Division of Vocational Education. An additional 90 occupations were added by using Department of Labor Job Analysis Schedules and through the interviewing process. A revised

format from the original (See Appendix F) was designed in order for the information to be microfiched.

A pilot-test site (Jackson Memorial Hospital, Rehabilitation Unit, Miami) was established to test out materials with rehabilitation clients. Randall Albert at the pilot-test site was instrumental in providing valuable suggestions and data for further continuation of the project.

The focus of this, the "Continuation of Job Related Physical Capacities Project (VIEW Interface)", has been to take all previous work and format it in such a way that it is usable by interested parties including counselors, clients and industry.

Due to major revisions to the occupations in Florida VIEW during 1982, many of the titles of the 115 occupations researched by the JRPC project in the two previous years had to be changed. For instance, Florida VIEW combined several duplicate occupations such as "Accountant, Public" and "Junior Accountant". These two occupations have the same D.O.T. (Dictionary of Occupational Titles) number but were represented as two individual occupations in Florida VIEW.

In the revision of the occupations, "Junior Accountant" was used only as a cross reference title to "Accountant, Public" rather than as a separate occupation.

Due to title changes and deletions of some occupations from Florida VIEW, there were only 102 of the original 115 occupational titles that could be used.

Included in the update process was a reference to the corresponding Florida VIEW number and S.O.C. (Standard Occupational Classification) code. These numbers would help a user find out more information about occupations of interest using Florida VIEW or Florida CHOICES.

The paper format used for delivering the occupational information was again revised by this project (See Appendix G). This form was easily read and understood. All information on the existing occupations was transferred and typed using this new format.

Because of the major changes to Florida VIEW and the effect it had on the revision of the JRPC occupations, no additional occupations have been added at this time. However, a meeting at the Southeast Region of the National Rehabilitation Association Conference in Tampa in May, 1983, proved very successful.

Dr. Michael Peterson is the Director of the Rehabilitation Education Program at Mississippi State University. Dr. Peterson attended a session on JRPC presented by John Marshall and Bill Woolley of Center for Career Development Services. He approached the presentors after the session very interested in conducting job analyses to add occupations to the JRPC system.

It was explained that the Florida Occupational Information Coordinating Committee (FLOICC) was in the midst of writing guidelines for job analysts to gather that information. These guidelines will set the standard for interested participating agencies to join in the development of additional job analyses. Dr. Peterson will do between 15-40 job analyses using the guidelines set by the FLOICC. In turn, Mississippi State University will receive all materials and training necessary to become a pilot site.

Suggestions for the revision of the Aids and Accommodations Manual were given by several of the original parties involved: Sheryl Ranson, Florida Occupational Information Coordinating Committee (FLOICC); Randall Albert, Jackson Memorial Hospital Rehabilitation Unit; and Debbie Herman Siegel, Director, original JRPC Research Project.

The major revisions needed for the Manual were the addition of photographs or artwork of the aid/accommodation when possible, and a more detailed description of how the aid/accommodation helped overcome the handicap.

"Tools, Equipment and Machinery Adapted for the Vocational Education and Employment of Handicapped People" was published by the Vocational Studies Center, University of Wisconsin - Madison in 1981. The catalog was developed under a contract with the Office of Education, U.S. Department of Health, Education and Welfare (See Appendix H).

Vocational educators, rehabilitation counselors and employers alike have found this catalog a useful resource for the employment of handicapped persons.

The information contained (See Appendix I) in this publication proved valuable to the update of the Aids and Accommodations Manual. We asked their permission (See Appendix J) to use pertinent information. They most graciously agreed (See Appendix K).

Using their format as a basis, and incorporating the ideas/suggestions from the involved parties mentioned earlier, a new Aids and Accommodations Manual format was designed (See Appendix L).

A survey of all manufacturers listed in the catalog and those listed in the original Aids and Accommodations Manual was conducted. By explaining to them how the information would be used (See Appendix M), the response was overwhelmingly positive.

Portions of the information received were not applicable to this project, however, all information was thoroughly reviewed.

FINDINGS & ANALYSIS

With respect to the project objectives, the findings and analyses were as follows:

Goal 1: A new format for easier and more accurate use was designed for the Aids and Accommodations Manual. A search for additional manufacturers was conducted and the information is currently being assembled for printing of the revised edition.

Goal 2: The content of the 115 occupations was reviewed and adapted for use with Florida VIEW and other career information systems. An occupational title revision in Florida VIEW resulted in the deletion of 13 occupations bringing the total to 102. The format of the materials was redesigned for easier use and compatibility.

Goal 3: The Florida Occupational Coordinating Committee (FLOICC) has seen the need to establish some detailed guidelines for the job analysis process. These guidelines are currently being reviewed. Because of this need, no occupations have been added to the JRPC project. However, preliminary talks with Florida V-Techs have shown a great interest in the development of additional occupations. Another source for the development of occupations is Dr. Michael Peterson, Director of the Rehabilitation Education Program at Mississippi State University. Following the guidelines being established by FLOICC, Dr. Peterson will oversee the analyses of 15-40 jobs for the project to be completed by August 31, 1983.

Goal 4: Using the new format, all occupations have been put on microfiche. The project added a component to the occupations that had not been stated in the objectives. This component is an index listing of required physical demand factors by occupation. This allows the user to scan the required factors for each occupation without having to look through all listings.

Goal 5: After taking into consideration suggestions made by interested parties, a computer access to the occupations with reference to the Aids and Accommodations Manual was designed. A programmer has been secured with all programming to be completed by August 31, 1983.

Goal 6: Several pilot sites have been identified and secured. They include University of North Florida, Mississippi State University, Gulf Coast Community College, Jackson Memorial Hospital Rehabilitation Unit, and Tampa Vocational Rehabilitation. Four additional pilot sites will be secured by August 31, 1983.

CONCLUSIONS AND RECOMMENDATIONS

Based upon field suggestions from rehabilitation specialists, changes were made both to the form and content of the JRPC system.

These changes resulted in a system that is easily used by educators, counselors, industry and the handicapped.

By establishing a system approach method for the continuous development of the JRPC system, other out-of-state agencies have expressed an interest in providing data for more occupations to add to the 102 already in existence.

The recommendations by this project are as follows:

1. Develop a consortium of states that will continue to add occupational job analysis data.
2. Keep on-going files of information on the latest technological advances in aids and accomodations for the handicapped.
3. Strive for the development of a computerized access of JRPC both for micro and mainframe use. Such a system would allow any state's career information access to the occupations as well as the catalog of Aids.
4. Communicate with other agencies and information gathering projects, i.e. VTECS to analyze additional career descriptions to be included in the JRPC system.

PRODUCT DESCRIPTION

The products developed by this project are described as follows:

1. Occupations on Microfiche - The 102 occupations with physical demand information that are represented in JRPC have been produced on microfiche with a 24X reduction ratio. The system contains eight microfiche (approximately 12-15 occupations/fiche) with an index of required factors preceding each occupation.

2. Aids and Accommodations Manual - All applicable information received from vendors was transferred into a standardized format with information on which physical demand factors the aid/accomodation would help the handicapped person perform, how it worked, suggested occupational use, and a photograph or line drawing when available. This information is printed on 8½X11 paper and contained in a 3-ring binder.

APPENDICES

CROSSWALK

JOB RELATED PHYSICAL CAPACITIES

PHYSICAL REQUIREMENTS TO DOL PHYSICAL DEMANDS

The Job Related Physical Capacities system of recording the physical requirements of jobs uses approximately twice as many factors as the DOL recording system (98 versus 47). Some DOL categories, such as "2-climbing", are divided into several factors by Job Related Physical Capacities, in this case "32-climbing legs only" and "33-climbing legs and arms". In general, the Job Related Physical Capacities system is much more detailed than the DOL system.

Also, in reporting (in the DOT) the physical demands information to users, the DOL categories are further condensed into numbers (2 through 6) and coded as S-sedentary, L-light, M-medium, H-heavy and VH-very heavy. The Job Related Physical Capacities reporting system continues the specific and detailed approach used in recording, by providing intensity information (hours) for all 98 factors.

PHYSICAL FACTORS

JRPC			DOL	
1.	Lifting	1-5	lb-S	Lifting
2.	Lifting	6-10	lb-S	Lifting
3.	Lifting	11-25	lb-S-L	Lifting
4.	Lifting	26-50	lb-M	Lifting
5.	Lifting	51-100	lb-H	Lifting
6.	Lifting	100+	lb-VH	Lifting
7.	Carrying	1-5	lb-L	Carrying
8.	Carrying	6-10	lb-L	Carrying
9.	Carrying	11-25	lb-M	Carrying
10.	Carrying	26-50	lb-H	Carrying
11.	Carrying	51-100	lb-VH	Carrying
12.	Carrying	100+	lb	Carrying
	1-12		lb	Pushing
			lb	Pulling
13.	Fingering/Feeling-R		4.	Fingering
			4.	Feeling
14.	Fingering/Feeling-L		4.	Fingering
			4.	Feeling
15.	Handling-R		4.	Handling
16.	Handling-L		4.	Handling
17.	Reaching Below Shoulders-R		4.	Reaching
18.	Reaching Below Shoulders-L		4.	Reaching
19.	Reaching Above Shoulders-R		4.	Reaching
20.	Reaching Above Shoulders-l		4.	Reaching
21.	Throwing-R			
22.	Throwing-L			
23.	Catching-R			
24.	Catching-L			
25.	Balance		2.	Balancing
26.	Sitting		1a.	Sitting
27.	Total Time on Feet			
28.	Standing		1a.	Standing
29.	Walking		1a.	Walking
30.	Running			
31.	Jumping			
32.	Climbing-Legs Only		2.	Climbing
33.	Climbing-Legs & Arms		2.	Climbing
34.	Treading While Sitting-R			
35.	Treading While Sitting-L			
36.	Treading While Standing-R			
37.	Treading While Standing-L			
38.	Stooping		3.	Stooping
39.	Crouching		3.	Crouching
40.	Kneeling		3	Kneeling
41.	Crawling		3.	Crawling
42.	Reclining			
43.	Twisting			
44.	Waiting Time			
45.	Far Vision		6.	Acuity, Far
46.	Near Vision		6.	Acuity, Near
47.	Color		6.	Color Vision
48.	Depth		6.	Depth Perception
49.	Accomodation		6.	Accomodation
50.	Visual Field		6.	Field of Vision
51.	Eye-Hand Coordination			
52.	Hearing Conversation		5.	Hearing Ordinary Conversation
53.	Hearing Other Sounds		5.	Other Sounds
54.	Talking		5.	Talking Ordinary
			5.	Talking Other
55.	Taste/Smell Discrimination			
56.	Other			

ENVIRONMENTAL FACTORS

JRPC		DOL	
57.	Inside	1.	Inside
58.	Outside Fair Weather	1.	Outside
59.	Outside Wet Weather	1.	Outside
60.	Hot °F	3.	Extreme Heat
61.	Cold °F	2.	Extreme Cold
62.	Sudden Temperature Changes	2.,3.	
63.	Humid	4.	Wet and/or Humid
64.	Dry		
65.	Moving Objects		
66.	Hazardous Machinery	6.	Hazards Mechanical
67.	Sharp Tools or Materials		
68.	Cluttered Floor		
69.	Slippery Floor		
70.	High Places		
71.	Electrical Hazards	6.	Electrical
72.	Exposure to Burns	6.	Burns
73.	Explosives	6.	Explosives
74.	Radiant Energy	6.	Radiant Energy
75.	Poor Lighting		
76.	Flashing Light		
77.	Glare		
78.	Poor Ventilation	7.	Poor Ventilation
79.	Dust	7.	Dusts
80.	Smoke		
81.	Mists	7.	Mists
82.	Fumes	7.	Fumes
83.	Gases	7.	Gases
84.	Odors	7.	Odors
85.	Wet Quarters	4.	Wet and/or Humid
86.	Close Quarters		
87.	Vibrations	5.	Vibration
88.	Noise	5.	Noise
89.	Dirt & Filth		
90.	Underground		
91.	Working With Others		
92.	Working Around Others		
93.	Working Alone		
94.	Varying Shifts		
95.	Maximum Number Hours of Work in 24		
96.	Other		
97.	Other		
98.	Other		

PROJECT STAFF

DEBBIE HERMAN SEIGEL, ACSW, DIRECTOR
LILLIAN BUCHANAN, Ph.D.
VICKY FRIEDMAN
LEAH JORDAN THORNBURY
THERESA ABRAMS
CAROL BARSKY
SILVIA BERLET
SUE BOGLE
BOB COLLINS
BRUNO DIAZ
ELLEN GRAYBEAL
KATHY HARTNETT
JAMIE JARAMILLO
NANCY NEWBURY
DIANE RADEL
DAVID SABEL
LARRY SKURNIK
ELENA STINSON
ELLEN WELLS

COMPUTER PROGRAM DESIGN

MIKE SORDELET
EILEEN SHEIH
VIRGINIA MARI

JRPC Occupational Information Data Sheet
MICROFICHE PROTOTYPE II/ JOB PROFILE
FASHION DESIGNER - PHYSICAL FACTORS
DOT# 142.061.018 VIEW #226

% YES: PERCENTAGE OF INCUMBENTS REPORTED THIS FACTOR REQUIRED FOR ANY LENGTH OF TIME.

RANGE: RANGE IN NUMBER OF HOURS INCUMBENTS REPORTED THIS FACTOR REQUIRED FOR JOB. BASED ON 10 SCHEDULES.

Factor #1 Lifting 1-5 Lbs.
40% Yes (30% ½-1½ Hrs.,10% 2-6 Hrs.)
Examples: Resource materials, scissors, knives, bolts of leather, sample fabric, sketches, sewing and adhesive tools, tape measure, straight pins, leather pieces.
Aids: Page 1/1
A000009 Tray, Wheelchair
A000018 Baskets
A000156 Tray, Non-Slip
A000213 Reachers, Various
E000285 Working Area Adjustment
E000287 Prosthetic Arms
A000291 Sliding Board
A000468 Versa Folding Cart
A000534 Carrying Aids
A000659 Craftsman Apron

Factor #7 Carrying 1-5 Lbs.
40% Yes (½-1½ Hrs.)
Examples: Resource materials, scissors, knives, fabric, bolts of leather, tape measure, straight pins, leather pieces.
Aids: 7/1
A000016 Utility Cart
A000018 Baskets
A000146 Matting Dycem
A000154 Trays, Carrying and Moving
A000216 Lap Tray
E000318 Environmental Adjustment
A000472 Walker, Modified
A000485 Carrying Aids
A000540 Chair Caddie
A000834 Wheeled Tray

Factor #13 Fingering
80% Yes (10% ½-1½ Hrs.,70% 2-6 Hrs.)
Examples: Scissors, knives, handtools, drafting equipment, sewing machines, heat sealing machine, gluing machine controls, straight pins, pens, pencils, pattern paper, fabric, leather parts, rulers.
Aids: 13-14/1
A000008 Gloves, Rubber
A000213 Reachers, Various
A000232 Rubber Fingertips
A000238 Swivel C Clip Holder
E000288 Work Area Adjustment
A000932 Sta-Board
A000342 Finger Splints
A000343 Wrist Cuff
A000543 Modular Adapter
A000596 Utensil Cuff
A000694 Switches
A001037 Scissors, Cutters, Various

Factor #15 Handling
100% Yes (50% 2-6 Hrs., 50% 7-8 Hrs.)
Examples: Handles materials, resource materials, sewing machine, gluing machine controls, scissors, knives, handtools, tape measure, pins, pens, pattern paper.
Aids: 15-16/1
A001391 Nylon Closure Tape
A001390 Button Hook and Zipper Pull
A000595 Arm Rest
A000596 Utensil Cuff

Factor #15 Cont'd...
A000371 Prosthetic/Orthotic Devices
A000239 Paratex Retriever
A000343 Wrist Cuff
A000238 Swivel C Clip Holder
A000050 Non-Slip Gripper
A000161 Writing Board

Factor #17 Reaching
100% Yes (80% 2-6 Hrs., 20% 7-8 Hrs.)
Examples: Reaches for resource materials fabrics, sewing machine, heat sealing machine, gluing machine controls, pattern paper. tape measure, scissors, rules.
Aids: 17-18/1 & 19-20/1
A001344 Lift Tables
A999992 E-Z Reacher
A001320 Magnetic Writing Board
A001342 Revolving Bins
E001042 Worksite Reorganization
A000749 Folding Grip Reacher
B000602 Knob Modification
A000550 Scissors Reacher
E000377 Storage of Supplies
A000242 Lazy Susan Turntable
See JRPC Aids Manual Factors 19,20,20E for additional Reaching Aids.

Factor #26 Sitting
90% Yes (20% ½-1½ Hrs.,30% 2-6 Hrs., 40% 7-8 Hrs.)
Examples: At worktable or desk to design patterns.
Aids: 26/1
A000047 Stand-up Wheelchair
A000059 Revolving Chair
A000252 Arthro Chair
A000253 Aissto Seat
A000255 Special Chairs
A000257 Wheelchair Cushions
E000395 Prevention of Prolonged Sitting
A000396 Back-Aid
A000397 Spinal Back Rest
A001211 Twin Rest

Factor #28 Standing
70% Yes (40% ½-1½ Hrs., 10% 2-6 Hrs, 20% 7-8 Hrs.)
Examples: Stand to cut patterns, measure to sketch, to use machines.
Aids: 28/1
A000057 Hi-Lo Work Bench
A000058 Economy Worktable
A000059 Revolving Chair
A000061 High Chair
A000062 Standing Table
A000066 Mechanical Wheelchair
A000177 Support Hose
A000178 Special Shoes
A000389 Braces, Various
A000472 Modified Walker

Factor #29 Walking
80% Yes (½-1½ Hours)
Examples: In and about shop to obtain materials and supplies, around worktable
Aids: 29/1
A000069 Walkers
A000174 Girdles

BEST COPY AVAILABLE

Factor #29 Cont'd...
A000176 Ace Wraps
A000177 Support Hose
A000178 Special Shoes
A000264 Sonic Guide
A000266 Howat Sensor
A000387 Canes, Various
A000617 Eyeglasses W/Sensor
A000713 Folding Rollator

Factor #46 Near Vision
100% Yes (40% 2-6 Hrs., 60% 7-8 Hrs.)
Examples: To study construction of items, to cut parts, to operate equipment, to draw, sketch and prepare specification sheets, to read, to write.
Aids: 46/1
A000268 Magnifier, Lighted Stand
E000434 Vertical Desk
A000435 Reading Stand
A000563 Page Magnifier
A000566 Visual Aids
A000591 Kurzweil Reading Machine
A001063 Optical Comparator
A001064 Yales, Sales Flip Up-Down Mag.
A999995 Steretoner
A001237 Watchmaker's Loupe

Factor #47 Color Vision
90% Yes (50% 2-6 Hrs., 40% 7-8 Hrs.)
Examples: To compare various shades to choose appropriate matches, to make aesthetic judgement on color combinations.
Aids: None Available

Factor #48 Depth Perception
60% Yes (20% ¼-1½ Hrs., 40% 2-6 Hrs.)
Examples: To study construction of items, to operate equipment, to sketch and prepare specification sheets , to judge distances and relationship between parts in designing sketches and patterns, to conceive total finished garment.
Aids: 48/1
E000081 Assure Good Lighting
A001065 Inspection Mirrors
A001432 Starrett Depth Micrometer
A001439 Pocket Folding Rule
A001440 Rotomatic Rule
A001304 Tapeless Measure

Factor #49 Accommodation
60% Yes (40% 2-6 Hrs.,20% 7-8 Hrs.)
Examples: to cut parts, to operate equipment, to sketch and prepare specification sheets, to pattern materials and view total pattern at same time.
Aids: 49/1
A000268 Magnifier, Lighted Stand
A001064 Yales, Sales Flip Up/Down Mag.
A001065 Inspection Mirrors

Factor #52 Hearing Conversation
100% YEs (60% ¼-1½ hrs.,40% 2-6 Hrs.)
Examples: Discusses and listens to plant manager via telephone and in person, must listen to discuss design patters, listens to buyers, salesman, president, owner, technical personnel, administration to coordinate design efforts.
Aids: 52/1
A000091 Hearing Aids
A000089 Electric Indicator
A000090 Vibrating Mats
A000093 Telephone Amplifier
A000279 VIP Communicator
A000768 Companion Desk Speaker

Factor #52 Cont'd...
A999984 Code Com.
B000762 VL-3 Vibrator
A000633 Miktransett Hand Held Aid
A000635 Signal Light

Factor #54 Talking
100% Yes (60% ¼-1½ Hrs.,40% 2-6 Hrs.)
Examples: Discusses designs and problems with Plant Manager, talks with buyer, salesman, owner, to coordinate design efforts via telephone and in person.
Aids: 54/1
A000093 Telephone Amplifier
A000095 Porta-Tel
A000098 Prosthetic Communication Device
A000196 Microwriter System
A000277 Electronic Larynx
A000279 VIP Communicator
A000491 Canon Communication
A000636 Autocom
A000770 Communic Aid
A001157 Multi-Lingual Voice System

Factor #57 Inside
100% Yes (7-8 Hrs.)
Examples: All work functions require ability to be situated indoors all day.
Aids: Not Applicable

Factor #88 Noise
100% YES (50 - 85 Decibels)
Examples: Noise is only occasional, caused by operation of machines used in fabricating samples.
Aids: 88/1
A000649 Earphone
A000682 Ear Protectors
A001258 Bilsom Disposable Ear Plugs
A001259 Ear Inserts

Factor #91 Working With Others
Examples: Plant Manager, President, owner, salesman, buyer, administration, technical personnel.
Aids: Not Applicable

Factor #92 Working Around Others
100% Yes (7-8 Hours)
Examples: Co-workers, customers, buyers, salesman, administration.
Aids: Not Applicable

BEST COPY AVAILABLE

AIDS AND ACCOMODATIONS MANUAL

DESCRIPTION	CODE #
REACHERS: Pistol grip handle with trigger action which will pick up a book or a dime. Cleo Living Aids, 3957 Mayfield Rd., Cleveland, Ohio Toll # 800-321-0595	A-000166
SLIDING BOARD To place between cart, wheelchair, pack, etc. and where books or files are located to assist in lifting them into the cart, wheelchair, pack or basket.	A-000291
UTILITY BAG Ideal in helping to lift books from one place to another. Local Sears and Roebuck.	A-000293
BACKPACK Daypack, can serve to assist in lifting and carrying books and files. Local sportshop .	A-000292
BASKET, Shopping To lift books into for easier transport Local Woolworth store.	A-000294
CUDDLE PACK Usually used to carry a baby but could serve also in lifting and as a carrier of books and other items with necessary modifications. Local Sears and Roebuck	A-000295
STROLLER Center handle has one-hand maneuverability front wheel swivel. Instead of carting a child it could be adjusted to lifting and carting house signs.	A-000296

DESCRIPTION	CODE #
LUGGAGE CART Could be helpful in lifting briefcase and carrying it from one place to another. Local Consumer Distributing Catalog Showroom	A-00029
DIRECTORY HOLDER, Lazy Susan: Holding aid for amputee, attached to holder by wire pin. Unit revolving ability makes directory accessible.	A-00031
LAPBOARD, Clearfit, for wheelchair: Useful for table substitute, gives user an unobstructed view of feet, clothing, obstacles. Attaches to wheelchair Schimedics, Ind., 700 N. Valley St., Suite B, Anaheim, Ca. 92801. Tel. 714-991-5340	A-00031
BOOKSTAND: Adjustable, up or down, side to side, tilts to various angles. Permits reading in various positions. Allows for easier turning of pages. Foundation for the Blind, 15 W. 16th. St., New York, N.Y. Tel. 212-620-2170	A-00032
GRIPS: For pencils and pens for persons with impaired grasp may be able to hold pencil/pen. Local sports store or office supply.	A-00033
WHEELCHAIR, ELEVATING Mechanical or electrical. Provides mobility at all heights. Provides access and avoids costly architectural changes. Summit Services, Inc. 535 Division St., Campbell, Ca. 95008	A-00030

BEST COPY AVAILABLE

BEST COPY AVAILABLE

Appendix D
SAMPLE

PHYSICAL CAPACITIES REPORT

BLANK SPACES=FULL CAPACITY NUMBERS=HOURS OF PARTIAL CAPACITY 0=NO CAPACITY

NAME OF CLIENT Ray NUMBER 002

MALE X FEMALE ____ DATE OF BIRTH 1952 HEIGHT 5' 11" WEIGHT 162

PHYSICAL FACTORS

	1	1-5	Lifting (Pounds) Includes pushing and pulling effort while stationary	
	2	6-10		
1	3	11-25		
0	4	26-50		
0	5	51-100		
0	6	100 +		
	7	1-5	Carrying (Pounds)	
	8	6-10		
X	9	11-25		
0	10	25-50		
0	11	51-100		
0	12	100 +		
	13	R	Fingering/feeling	
	14	L		
	15	R	Handling	
	16	L		
	17	R	Reaching: Below shoulders	
	18	L		
	19	R	Reaching: Above shoulders	
	20	L		
	21	R	Throwing	
	22	L		
	23	R	Catching	
	24	L		
	25		Balance	
	26		Sitting	
4	27		Total time on feet	
0	28		Standing	
0	29		Walking	
0	30		Running	
0	31		Jumping	
X	32		Climbing: Legs only	
0	33		Climbing: Legs and arms	
0	34	R	Treading: While sitting	
	35	L		
2	36	R	Treading: While standing	
2	37	L		
	38		Stooping	
0	39		Crouching	
0	40		Kneeling	
0	41		Crawling	
	42		Reclining	
	43		Twisting	
	44		Waiting time	
X	45		Far vision	
X	46		Near vision	
	47		Color	
	48		Depth	
	49		Accomodation	
	50		Visual field	
	51		Eye-hand coordination	

52	0	Conversation	Hearing
53	0	Other sounds	
54	0	Talking	
55		Taste/smell discrimination	
56		Other	

ENVIROMENTAL FACTORS

57		Inside	
58		Fair weather	Outside
59	0	Wet weather	
60	0	Hot °f	
61	0	Cold of	
62		Sudden temperature changes	
63	0	Humid	
64		Dry	
65		Moving objects	
66		Hazardous machinery	
67		Sharp tools or materials	
68		Cluttered floor	
69	0	Slippery floor	
70		High places	
71		Electrical hazards	
72		Exposure to burns	
73		Explosives	
74		Radiant energy	
[redacted]		(kind)	
75		Poor lighting	
76		Flashing light	
77		Glare	
78		Poor ventilation	
79	0	Dust	
80	0	Smoke	
81	0	Mists	
82	0	Fumes	
83	0	Gases	
84		Odors	
85		Wet Quarters	
86		Close Quarters	
87	0	Vibrations	
88	0	Noise	
89		Dirt & filth	
90		Underground	
91		Working with others	
92		Working around others	
93		Working alone	
94		Varying shifts	
95		Maximum number of hours of work within 24 hours	
96		Other	
97		Other	
98		Other	

Physicians remarks Deaf mute RT leg BK amputee (Prosthesis Fair), Rheumatic heart, nervous when exposed To noise, arrested Tuberculosis.

DATE 2-16-80 PHYSICIAN'S NAME ____

This form is based on work done by Bert Hasman. It has been adapted by the Job-Related Physical Capacities Research Project at Florida International University, Miami, Florida. It's production was funded by the National Occupational Information and the Florida Committee. For information on it's use, please contact:

Debbie Herman Seigel
305/552-2513

BEST COPY AVAILABLE

PHYSICAL REQUIREMENT REPORT

% YES: percentage of incumbents reported this factor required for any length of time.
RANGE: range in number of hours incumbents reported factor req'd for job.
* : marks factors required according to at least 60% of the incumbents.

COMPUTER PROGRAM ANALYST

PHYSICAL FACTORS

Range	%Yes			
0-1/2*	80	1	1-5	Lifting (Pounds) Includes pushing and pulling effort while stationary
0-1/4	20	2	6-10	
0-1/4	10	3	11-25	
0-1/2	20	4	26-50	
-	0	5	51-100	
-	0	6	100 +	
0-1/4*	70	7	1-5	Carrying (Pounds)
0-1/4	10	8	6-10	
0-1/4	10	9	11-25	
0-1/4	20	10	25-50	
-	0	11	51-100	
-	0	12	100 +	
2-8 *	100	13	R	Fingering/feeling
2-8 *	100	14	L	
1/4-5 *	100	15	R	Handling
1/4-5 *	100	16	L	
0-8 *	70	17	R	Reaching: Below shoulders
0-8 *	70	18	L	
0-1/4*	10	19	R	Reaching: Above shoulders
0-1/4	10	20	L	
-	0	21	R	Throwing
-	0	22	L	
-	0	23	R	Catching
-	0	24	L	
0-1/4	10	25		Balance
0-8+	40	26		Sitting
0-6*	60	27		Total time on feet
0-2	30	28		Standing
0-3	50	29		Walking
-	0	30		Running
-	0	31		Jumping
0-1/4	20	32		Climbing: Legs only
-	0	33		Climbing: Legs and arms
-	0	34	R	Treading: While sitting
-	0	35	L	
-	0	36	R	Treading: While standing
-	0	37	L	
0-6	40	38		Stooping
0-1/2	20	39		Crouching
-	0	40		Kneeling
-	0	41		Crawling
-	0	42		Reclining
0-1/4	10	43		Twisting
0-8 *	90	44		Waiting time
-	0	45		Far vision
20/30-2/3	100	46		Near vision
-	0	47		Color
+	20	48		Depth
+	80	49		Accomodation
+	10	50		Visual field

Range		%Yes	
+	52	100	Hearing: Conversation
+	53	20	Hearing: Other sounds
1/2-8 *	54	100	Talking
-	55	0	Taste/smell discriminatio
-	56		Other

ENVIROMENTAL FACTORS

8-8+*	57	100	Inside
-	56	0	Outside: Fair weather
-	59	0	Outside: Wet weather
-	60	0	Hot of
-	61	0	Cold of
-	62	0	Sudden temperature change
-	63	0	Humid
-	64	0	Dry
-	65	0	Moving objects
-	66	0	Hazardous machinery
-	67	0	Sharp tools or materials
0-8	68	40	Cluttered floor
-	69	0	Slippery floor
-	70	0	High places
0-8	71	40	Electrical hazards
-	72	0	Exposure to burns
-	73	0	Explosives
0-5	74	30	Radiant energy
			(kind)
-	75	0	Poor lighting
0-8	76	10	Flashing light
-	77	20	Glare
-	78	0	Poor ventilation
-	79	0	Dust
-	80	0	Smoke
-	81	0	Mists
-	82	0	Fumes
-	83	0	Gases
-	84	0	Odors
-	85	0	Wet Quarters
0-5	86	30	Close Quarters
-	87	0	Vibrations
0-8	88	20	Noise
-	89	0	Dirt & filth
-	90	0	Underground
2-8+*	91	100	Working with others
3-8+*	92	100	Working around others
0-8+*	93	70	Working alone
-	94	0	Varying shifts
8-20+	95		Maximum number of hours of work within 24 hours
-	96		Other

BEST COPY AVAILABLE

JRPC OCCUPATIONAL INFORMATION DATA SHEET

JOB TITLE: ACCOUNTANT, PUBLIC

DOT NUMBER: (4th Edition) 160.167.010

FLORIDA VIEW NUMBER: #1

SOC CODE:

The information provided on this job is based on data: Converted from 7 U.S. Department of Labor Job Analysis Schedules and/ or 0 On The Job Interviews conducted by JRPC staff.

DEFINITIONS:

%YES: Percentage of workers (incumbents) that reported factor required on the job for any length of time during the work day.

RANGE: The range in number of hours each worker (incumbent) reported factor required during work day.

EXAMPLES: Examples are given of tasks which might be expected of you for each factor in the performance of this job.

AIDS: Page numbers in the JRPC Aids and Accommodations Manual are listed for each factor. The manual provides a listing of the many aids, accommodations and possible job modifications you should consider if you need assistance to perform any factor required on the job. The manual describes the item in detail and provides information on where to get it.

FACTOR # 1 Lifting 1-5 lbs.

% YES: 43%

RANGE: 29% Said ½ - 1½ hours.
14% Said 2 - 6 hours.

EXAMPLES: Lifts ledgers, journals, records, supplies, pushes and pulls on file drawers to open and close them.

AIDS: Page 1/1
in JRPC Aids & Accommodations Manual.

FACTOR # 7 Carrying 1-5 lbs.

% YES: 43%

RANGE 29% said ½ - 1½ Hours.
14% said 2 - 6 Hours.

EXAMPLES: Carries ledgers for short distances, journals, records, supplies.

AIDS: Page 7/1

FACTOR # 13 Fingering

% YES: 83%

RANGE: 33% Said ½-1½ hours
33% Said 2 - 6 Hours
17% Said 7 - 8 Hours
(Based on 6 DOL Schedules)

EXAMPLES: Fingers sheets of paper when using accounting machine, adding machine, calculator keyboard, writing, dialing telephone.

AIDS: Page 13-14/1
in JRPC Aids & Accommodations Manual.

FACTOR # 15 Handling

% YES: 100%

RANGE: 57% Said 2 - 6 Hours.
43% Said 7 - 8 Hours.

EXAMPLES: Handles pencils, pens, office equipment, telephone, ledgers, journals, financial reports, budgets, accounting records, work tools, correspondence.

AIDS: Page 15-16/1

PHYSICAL CAPACITIES REPORT

Name Sherry _____ Number 6

FC= Full Capacity PC= Hours of Partial Capacity NC = No Capacity

Physical Factors		FC	PC	NC	Phsycian's Remarks
1. Lifting (pounds)	1-5	✓			
2. Includes pushing	6-10	✓			
3. and pulling	11-25	✓			
4. while stationary	26-50			✓	
5.	51-100			✓	
6.	100+			✓	
7. Carrying (pounds)	1-5	✓			
8. Includes pushing	6-10	✓			
9. and pulling	11-25	✓			
10. while moving	26-50		✓		Can hold heavy weights on it,
11.	51-100		✓		with no feeling
12.	100+		✓		
13. Fingering	(right)	✓			
	(left)	✓			
	(either)	✓			
14. Feeling	(right)	✓			
	(left)	✓			
	(either)	✓			
15. Handling	(right)	✓			
16.	(left)	✓			
16E.	(either)	✓			
17. Reaching	(right)	✓			
18. Below	(left)	✓			
18E. Shoulders	(either)	✓			
19. Reaching	(right)	✓			
20. Above	(left)	✓			
20E. Shoulders	(either)	✓			
21. Throwing	(right)	✓			
22.	(left)	✓			
22E.	(either)	✓			
23. Catching	(right)	✓			
24.	(left)	✓			
24E.	(either)	✓			
25. Balancing				✓	
26. Sitting		✓			
27. Total Time on Feet				✓	Spinal Cord Severed
28. Standing				✓	by bullet - in wheelchair
29. Walking				✓	
30. Running				✓	
31. Jumping				✓	
32. Climbing Legs Only				✓	
33. Climbing Legs & Arms				✓	
34. Treading	(right)			✓	
35. While	(left)			✓	
35E. Sitting	(either)			✓	
36. Treading	(right)			✓	
37. While	(left)			✓	
37E. Standing	(either)			✓	
38. Stooping/Bending		✓			
39. Crouching				✓	
40. Kneeling				✓	
41. Crawling				✓	
42. Reclining		✓			
43. Twisting		✓			
45. Far Vision		✓			
46. Near Vision		✓			
47. Color		✓			
48. Depth		✓			
49. Accommodation		✓			
50. Visual Field		✓			
52. Hearing Conversation		✓			
53. Hearing Other Sounds		✓			
54. Talking		✓			
55. Taste/Smell		✓			
56. Other					

Appendix G
SAMPLE

PHYSICAL CAPACITIES REPORT

NAME _____ NUMBER _____

PHYSICAL FACTORS	FC Full Capacity	PC Hrs/Partial Capacity	NC No Capacity	Evaluator's Remarks
Lifting includes pushing & pulling while stationary				
1. 1-5 pounds				
2. 6-10 pounds				
3. 11-25 pounds				
4. 26-50 pounds				
5. 51-100 pounds				
6. 100+ pounds				
Carrying includes pushing & pulling while moving				
7. 1-5 pounds				
8. 6-10 pounds				
9. 11-25 pounds				
10. 26-50 pounds				
11. 51-100 pounds				
12. 100+ pounds				
13. Using fingers (right)				
(left)				
(either)				
14. Feeling (right)				
(left)				
(either)				
15. Handling (right)				
16. (left)				
16E. (either)				
Reaching Below Shoulders				
17. (right)				
18. (left)				
18E. (either)				
Reaching Above Shoulders				
19. (right)				
20. (left)				
20E. (either)				
21. Throwing (right)				
22. (left)				
22E. (either)				
23. Catching (right)				
24. (left)				
24E. (either)				
25. Balancing				
26. Sitting				
27. Total Time on Feet				
28. Standing				
29. Walking				
30. Running				
31. Jumping				
32. Climbing-Legs Only				
33. Climbing-Legs & Arms				
Treading While Sitting				
34. (right)				
35. (left)				
35E. (either)				
Treading While Standing				
36. (right)				
37. (left)				
37E. (either)				
38. Stooping/Bending				
39. Crouching				

Physical Factors (cont.)	FC	PC	NC	Evaluator's Remarks
40. Kneeling				
41. Crawling				
42. Reclining				
43. Twisting				
45. Far Vision				
46. Near Vision				
47. Color				
48. Depth				
49. Accommodation				
50. Visual Field				
52. Hearing Conversation				
53. Hearing Other Sounds				
54. Talking				
55. Taste/Smell				
56. Other				

FC = Full Capacity **PC = Hours of Partial Capacity** **NC = No Capacity**

ENVIRONMENTAL FACTORS	FC	PC	NC	Evaluator's Remarks
57. Inside				
58. Outside/Fair Weather				
59. Outside/Wet Weather				
60. Hot °f				
61. Cold °f				
62. Sudden Temperature Changes				
63. Humid				
64. Dry				
65. Moving Objects				
66. Hazardous Machinery				
67. Sharp Tools or Materials				
68. Cluttered Floor				
69. Slippery Floor				
70. High Places				
71. Electrical Hazards				
72. Exposure to Burns				
73. Explosives				
74. Radiant Energy				
75. Poor Lighting				
76. Flashing Light				
77. Glare				
78. Poor Ventilation				
79. Dust				
80. Smoke				
81. Mists				
82. Fumes				
83. Gases				
84. Odors				
85. Wet Quarters				
86. Close Quarters				
87. Vibrations				
88. Noise				
89. Dirt & Filth				
90. Underground				
91. Working with Others				
92. Working Around Others				
93. Working Alone				
94. Varying Shifts				
95. Maximum # of hours in 24 hrs.				

Evaluator's Name _____ Title/Position _____ Date _____

JRPC OCCUPATIONAL INFORMATION DATA SHEET

JOB TITLE: AUTO MECHANIC

DOT NUMBER: (4th Edition) 620-261-010

FLORIDA VIEW NUMBER: #44

SOC CODE: 6111-205

The information provided on this job is based on data: Converted from 0 U.S. Department of Labor Job Analysis Schedules and/or 10 On The Job Interviews conducted by JRPC staff.

DEFINITIONS:

% YES: Percentage of workers (incumbents) that reported factor required on the job for any length of time during the work day.

RANGE: The range in number of hours each worker (incumbent) reported factor required during work day.

EXAMPLES: Examples are given of tasks which might be expected of you for each factor in the performance of this job.

AIDS: Page numbers in the JRPC Aids and Accommodations Manual are listed for each factor. The manual provides a listing of the many aids, accommodations and possible job modifications you should consider if you need assistance to perform any factor required on the job. The manual describes the item in detail and provides information on where to get it.

FACTOR # 1 Lifting 1-5 lbs.

% Yes: 100
Range: (20% ½-2 hrs., 40% 5 hrs., 40% 7-8 hrs.)

Examples: Hand tools, small auto parts, starters, hoses, carburetors, gas pump, hammer.

AIDS PAGE # 1/1 IN JRPC MANUAL

FACTOR # 2 Lifting 6-10 lbs.

% Yes: 100
Range: (60% ½-2 hrs., 40% 3-6 hrs.)

Examples: Power tools, wheels, batteries, bumpers, body parts, radiators.

AIDS PAGE # 2/1 IN JRPC MANUAL

FACTOR # 3 Lifting 11-25 lbs.

% Yes: 90
Range: (60% ½-2 hrs., 30% 3-4 hrs.)

Examples: Tires, body parts, frame parts, exhaust system parts, fly wheels.

AIDS PAGE # 3/1 IN JRPC MANUAL

FACTOR # 4 Lifting 26-50 lbs.

% Yes: 100
Range: (60% ½-2 hrs., 40% 3-4 hrs.)

Examples: Wheel assembly, drive shaft, shop equipment, rear ends, clutch.

AIDS PAGE # 4/1 IN JRPC MANUAL

BEST COPY AVAILABLE

FACTOR # 5 Lifting 51-100 lbs.

% Yes: 70
Range: (70% ½-2 hrs.)

Examples: Cylinder heads, transmission, shop equipment, small engine block, tool box.

AIDS PAGE # 5/1 IN JRPC MANUAL

FACTOR # 6 Lifting 100+ lbs.

% Yes: 90
Range: (90% ½-1 hr.)

Examples: Transmission, truck tire and wheel combination, engine, shop equipment, truck parts, large engine block.

AIDS PAGE # 6/1 IN JRPC MANUAL

FACTOR # 7 Carrying 1-5 lbs.

% Yes: 100
Range: (20% 1 hr., 50% 3-5 hrs., 30% 8 hrs.)

Examples: Hand tools, small parts, shop materials, cans of oil, boxes from stock.

AIDS PAGE # 7/1 IN JRPC MANUAL

FACTOR # 8 Carrying 6-10 lbs.

% Yes: 100
Range: (60% 1-2 hrs., 40% 3 hrs.)

Examples: Air Gun, power tools, auto parts, brake drums, water pump.

AIDS PAGE # 8/1 IN JRPC MANUAL

FACTOR # 9 Carrying 11-25 lbs.

% Yes: 80
Range: (70% ½-2 hrs., 10% 3 hrs.)

Examples: Carburetor, manifold, wheel bases, body parts, batteries.

AIDS PAGE # 9/1 IN JRPC MANUAL

FACTOR # 10 Carrying 26-50 lbs.

% Yes: 80
Range: (70% ½-2 hrs., 10% 4 hrs.)

Examples: Tires, wheels, floor jack, tool box, brake drums, drive shaft

AIDS PAGE # 10/1 IN JRPC MANUAL

FACTOR # 11 Carrying 51-100 lbs.

% Yes: 70
Range: (70% ½-1 hr.)

Examples: Cylinder heads, floor jack, shop equipment, small transmission.

AIDS PAGE # 11/1 IN JRPC MANUAL

FACTOR # 12 Carrying 100+ lbs.

% Yes: 80
Range: (80% ½-1 hr.)

Examples: Transmission, pushing a stalled car, truck tire and wheel, engine block

AIDS PAGE # 12/1 IN JRPC MANUAL

BEST COPY AVAILABLE

BEST COPY AVAILABLE

TOOLS, EQUIPMENT AND MACHINERY ADAPTED FOR THE VOCATIONAL EDUCATION AND EMPLOYMENT OF HANDICAPPED PEOPLE

John Gugerty - Project Director
Arona Faye Roshal - Project Staff
Mary D.J. Tradewell - Project Staff
Linda Anthony - Project Assistant

January, 1981

A Federal Project for the
U.S. Department of Health, Education and Welfare,
Office of Education
Bureau of Occupational and Adult Education

Contract Number 300790038O
Project Number 498MH90006

Contractor

Wisconsin Vocational Studies Center
University of Wisconsin - Madison
Madison, Wisconsin

Subcontractor

Indianhead Vocational, Technical and Adult Education District
Shell Lake, Wisconsin

ENGINE TUNEUP METER WITH AUDITORY OUTPUT

DEVELOPER

J.C. Swail
National Research Council
M-50
Dee R182 Montreal Road
Ottawa Ontario
Canada
K1A 0R8

CONTACT PERSON

Same as Developer

WHERE IT IS USED

Automobile Repair

PROBLEM(S) IT OVERCOMES

visual impairment

HOW IT WORKS

This product is a modification of Heathkit CM2045. The visual meter was replaced with an auditory and tactile readout.

(Information provided by J.C. Swail, N.R.C.)

FIELD TESTED

yes

Canadian National Institute for the Blind-Toronto, Canada

REGULATORY APPROVAL

not applicable

WARRANTY PROVIDED

not applicable

FOR SALE

no

CENTER FOR CAREER
DEVELOPMENT SERVICES
Florida Department of Education
Division of Vocational Education
Tallahassee, Florida 32301
904-488-0400/800-342-9271

December 9, 1982

Mr. Lloyd Tindall
Wisconsin Vocational Studies Center
University of Wisconsin - Madison
964 Educational Sciences Building
Madison, WI 53706

Dear Mr. Tindall:

This letter is to serve as a formal request from the Center for Career Development Services, Florida Department of Education, for permission to use the information contained in your publication, "Tools, Equipment & Machinery Adapted for the Vocational Education & Employment of Handicapped People."

Our current project, JRPC (Job Related Physical Capacities), intends to provide specific information relative to the problems a physically handicapped person must accommodate in order to successfully perform an occupation.

It also gives information on ways in which such accommodation might be managed. An individual and his counselor can use the system to objectively determine feasibility of particular career choices. The system is designed to enable handicapped persons to approach the problem of their vocational choice from a knowledgeable perspective enabling control of the decision-making process.

In most cases, formalized career information systems use physical demands as principles of exclusion to assist users in narrowing down possibilities. The JRPC client is generally advised not to use those principles. He/she is advised to proceed as though there were no physical limitation problems at that point, but to focus instead on the other principles: i.e., interests, educational levels, desired income, training requirements, labor market projections. The physical issues are dealt with specifically at a later point, when the JRPC appendage is used.

We have enclosed samples of the information contained in JRPC. This information will be revised and updated. Any suggestions you might have will be appreciated and taken into consideration.

The Aids & Accommodations Manual (a portion of the JRPC project of which we have also enclosed a sample) focuses on many of the products and services that your publication deals with. This Manual

BEST COPY AVAILABLE

is also in need of updating and reformatting for its distribution on microfiche.

We intend to write manufacturers and vendors for permission to use photographs as well as to solicit new photographs and information.

We will be glad to send you samples of our progression with the project and share any information that we discover in our search.

Thank you for your support in this effort. We will be awaiting your reply.

Sincerely,

John Marshall
Director, Florida VIEW

Sandy Kirkland
Sandy Kirkland
Program Consultant

JM/SK/ks

Enclosures

The Vocational Studies Center
University of Wisconsin-Madison

964 Educational Sciences Building
1025 West Johnson Street
Madison, Wisconsin 53706
(608) 263-3696

January 3, 1983

John Marshall
Director, Florida VIEW
Center for Career Development Services
Florida Department of Education
Division of Vocational Education
Tallahassee, FL 32301

Dear Mr. Marshall:

Thank you for the letter of December 9, 1982 which I received from you and Sandy Kirkland. We would be happy to grant you permission to use the information contained in "Tools, Equipment and Machinery Adapted for the Vocational Education and Employment of Handicapped People."

We do ask that you provide the appropriate acknowledgements of those items which you use, i.e. authors and the Vocational Studies Center. We appreciate your offer to send samples of your progress and will look forward to seeing them. Your project will require a lot of work and will be a valuable contribution to the career development of handicapped people.

I wish you much success in your project.

Sincerely,

Lloyd W. Tindall

Lloyd W. Tindall
Project Associate

LWT/dw

ENGINE TUNEUP METER WITH AUDITORY OUTPUT

DEVELOPER/CONTACT PERSON

J. C. Swail
National Research Council
M-50
Dee R182 Montreal Road
Ottawa Ontario
Canada
K1A OR8

PROBLEM(S) IT OVERCOMES

Visual impairment

JRPC FACTOR NUMBERS

45, 46, 48, 49, 50

FOR SALE

No

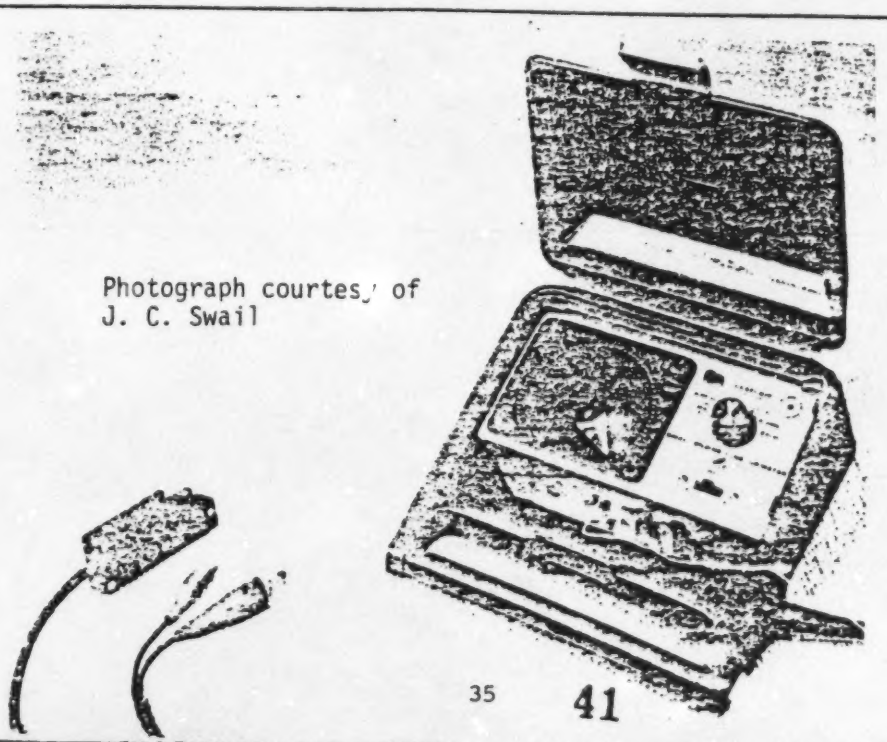
SUGGESTED OCCUPATIONAL USE

Auto Mechanic

HOW IT WORKS:

This product is a modification of Heathkit CM2045. The visual meter was replaced with an auditory and tactile readout. (Information provided by J. C. Swail, N.R.C.)

SAMPLE:



Photograph courtesy of
J. C. Swail

CENTER FOR CAREER DEVELOPMENT SERVICES
Florida Department of Education
Division of Vocational Education
Tallahassee, Florida 32301
904-488-0400/800-342-9271

December 15, 1982

To Whom It May Concern:

The Center for Career Development Services, Florida Department of Education, has been charged with updating information on various aids and accommodations used by handicapped individuals in the world of work.

Our current project, JRPC (Job Related Physical Capacities), intends to provide specific information relative to the problems a physically handicapped person must accommodate in order to successfully perform an occupation.

It also gives information on ways in which such accommodation might be managed. An individual and his counselor can use the system to objectively determine feasibility of particular career choices. The system is designed to enable handicapped persons to approach the problem of their vocational choice from a knowledgeable perspective enabling control of the decision-making process.

In most cases, formalized career information systems use physical demands as principles of exclusion to assist users in narrowing down possibilities. The JRPC client is generally advised not to use those principles. He/she is advised to proceed as though there were no physical limitation problems at that point, but to focus instead on the other principles: i.e., interests, educational levels, desired income, training requirements, labor market projections. The physical issues are dealt with specifically at a later point, when the JRPC appendage is used.

The final product of this system will be information on 110 occupations individually related to 96 physical and environmental factor requirements. If there is a discrepancy between the client's capabilities and factors required for an occupation of interest, he/she will be referred to a manual of aids and accommodations that will help overcome the handicap.

This information will be delivered on microfiche. Any information such as descriptions of aids, handicaps they overcome, brochures, illustrations or drawings that you could provide to us would be greatly appreciated.

If there is a charge for the requested information, please advise as soon as possible.

Please send all information to:

Sandy Kirkland, Program Consultant
Center for Career Development Services
Department of Education
Knott Building
Tallahassee, Fl 32301

We thank you for your support in our effort to help handicapped individuals find successful employment of interest.

Sincerely,

Sandy Kirkland

Sandy Kirkland

SK/ns